

**NATURAL RESOURCES CONSERVATION SERVICE  
CONSERVATION PRACTICE STANDARD**

**DAM, DIVERSION**

(number)

**CODE 348**

**DEFINITION**

A structure to divert part or all of the water from a waterway or a stream into a different watercourse, an irrigation canal or ditch, or a waterspreading system.

**PURPOSE**

- Divert part or all of the water from a waterway in such a manner that it can be controlled and used beneficially
- Divert periodic damaging flows from one watercourse to another watercourse having characteristics that reduce the damage potential of the flows

**CONDITIONS WHERE PRACTICE APPLIES**

Where a diversion dam is needed as an integral part of an irrigation system or a waterspreading system designed to facilitate the conservation use of soil and water resources.

Where it is desirable to divert water from an unstable watercourse to a stable watercourse.

Where the water supply available is adequate for the purpose for which it is to be diverted.

Where the impact of a proposed dam on water quality, fish and wildlife habitat, forest, and visual resources are evaluated and the techniques and measures necessary to overcome the undesirable effects are made part of the work.

Where diversion flow from one watercourse to another does not adversely impact downstream uses and does not violate state law.

**CRITERIA**

Foundation, embankment, and spillway. All dams designed under this standard shall meet or exceed the foundation, embankment, and spillway criteria called for in the Pond (378) standard and specification or in Technical Release 60- Earth Dams and Reservoirs, as appropriate.

**Materials.** All materials to be used in constructing the diversion dam and appurtenances shall have the strength, durability, and workability required to meet the installation and service conditions of the site.

**Outlet works.** If part of the flow is to be diverted, the outlet works must provide for positive control of both maximum and minimum diversions consistent with the purpose for which the diversion is made. If all the flow is to be diverted, the outlet works must provide for safe diversion of all expected flows, depending on site conditions.

**Bypass works.** The bypass works must be capable of passing all flows to satisfy downstream priorities and all flows in excess of diversion requirements, including flood flows. This may require a combination of orifices, weirs, and gates designed to meet the requirements of the site.

**Special-purpose works.** If debris, bedload materials, or sediments are present under flow conditions subject to diversion, provision shall be made to bypass or remove materials that may be detrimental to the functioning of the outlet works, to other parts

of the works, or to areas to which diversion is made. This may require the use of settling basins, debris traps, trash guards, or sluiceways, depending on site conditions.

<p>Conservation practice standards are reviewed periodically, and updated if needed. To obtain the current version, contact the Natural Resources Conservation Service.</p>
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## **348-2**

**Vegetation.** Disturbed areas not otherwise covered or protected shall be established to grass as soon as practicable after construction. If soil or climate conditions preclude the use of vegetation and protection is needed, non-vegetative materials, such as mulches or gravel, may be used. Seedbed preparation, seeding, fertilizing, and mulching shall comply with Critical Area Planting (342) standard and specification. The vegetation shall be maintained and undesirable species controlled by chemical or mechanical means.

### **PLANS AND SPECIFICATIONS**

Plans and specifications for installing diversion dams shall be in keeping with this standard and shall describe the requirements for applying the practice to achieve its intended purpose.

Missouri Construction Specifications for dam, 378-A, and spillway, 378-B, may be used where applicable.

### **OPERATION AND MAINTENANCE**

Provisions shall be made as necessary for operation and maintenance requirements and may include a formal plan for larger more complex dams.

The following University of Missouri Agricultural Guide provides information on operating and maintaining structures with embankment dams:

1548 "Maintaining Small Dams"

**NATURAL RESOURCES CONSERVATION SERVICE  
MISSOURI CONSTRUCTION SPECIFICATION**

**FOR  
DAM, DIVERSION  
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Construction operations shall be carried out in such a manner and sequence such that erosion and air and water pollution will be minimized and held within legal limits. A land disturbance permit from the Missouri Department of Natural Resources may be needed if the disturbed area is greater than five acres in size.

The completed job shall present a workmanlike appearance and shall conform to the line, grades, and elevations shown on the drawings or as staked in the field.

All operations shall be carried out in a safe and skillful manner. Safety and health regulations shall be observed and appropriate safety measures used.

Construction operations shall be carried out in a manner that erosion and air and water pollution are minimized and held within legal limitations. The completed job shall present a workmanlike finish. Construction shall be according to the following requirements as specified for the job.

Specified materials shall be adequate quality to provide the stability and durability required to achieve the planned objective. Consideration shall be given to appropriate factors of safety.

Measures and construction methods that enhance fish and wildlife values shall be incorporated as needed and as practical.

Additional details: \_\_\_\_\_  
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